

REMARKS

Claims 1-11, 23-31, and 40-46 are pending in this application. The claims, as written above, incorporate all changes described in the applicants' response to the previous Office Action dated June 23, 2005. No further amendments have been made to the claims. Reconsideration of the application in view of the remarks that follow is respectfully requested.

The Examiner made the same rejections as in the previous Office Action dated June 23, 2005. In their previous response, applicants presented a number of arguments supporting patentability of the pending claims. In particular, with respect to the main references, U.S. Patent No. 4,492,400 to Yuda (Yuda), U.S. Patent 6,652,015 to Carney et al (Carney), and the U.S. Patent 2,899,232 to Walter (Walter), the applicants argued:

(a) Yuda and Walter fail to teach or suggest two limitations of the independent claims 1 and 23: (1) a plunger that moves independently from gripping members and (2) gripping fingers holding an object by friction; and

(b) Even if the grippers of Yuda and Carney or the grippers of Walter and Carney had teachings of certain limitations of claims 1 and 23 as the Examiner alleges (which is clearly is not the case), it still would not have been obvious to combine the references to arrive at the instant claims 1 and 23. Such combinations are not possible without significant modifications to the grippers of the cited references.

For the Examiner's convenience, these arguments are reproduced in their entirety beginning at the page 14 of this response.

The Examiner did not provide any substantive response to the argument (b), much less explained why the proposed combinations of the cited art, which requires a significant modifications of the grippers, is obvious. With respect to the argument (a), the Examiner stated as follows:

“The teachings of Yuda and Walter are modified by the teachings of Carney. Carney teaches that it is advantageous to have the gripping *fingers have a spring-like property, when the spring like property of the fingers is responsible for the gripping the object.*

This combination of the teachings satisfies the limitation of ‘move independently from each other’ because in Carney teachings, the plunger is not needed for the gripping process. The plunger is used for opening the fingers and securing the fingers around the object. *The actual gripping is done by the spring-like properties of the gripping fingers.* Thus, the plunger is not necessary for ‘gripping’ and works independently of the fingers.” (pages 6-7 of the Office Action; emphasis added)

Applicants would like to point out that the sentences highlighted by the bold italics font in the quote above are not correct. Carney does not teach fingers having a spring-like property, which enables them to hold an object by friction. Instead, as shown in Figure 17 and as described in col. 19, lines 5-14, Carney teaches using a separate element, a spring 1010, that exerts a spring bias force at the gripping fingers 730 in order to hold an object:

“Once gripper actuator motor 790 stops, it is the *spring bias action of bias member 1010* on protruding 845 that provides the gripping action of fingers 730. Consequently, fingers 730 tend to grip objects with an even, fairly constant amount of force. This is a significant advantage. The amount of force is based on the spring constant of *spring 1010*. If it were desirable to vary the amount of force, a spring with a nonlinear spring constant can be selected.” (col. 19, lines 5-14, emphasis added).

The specification further explains that:

“Bias member 1010 is coupled to upper flat member 840. *Bias member 1010 provides a rotational bias or resistance.* When the gripper control assembly 1050 is not engaged, fingers 730 tend towards

a nominal position (e.g., closed or open, preferably closed). According to a preferred embodiment, bias member 1010 is a spring attached to protruding member 845. Alternative devices for imparting a rotational bias, such as a rubber band type element, could be employed.” (col. 17, lines 59-67, emphasis added).

The Examiner has recognized that Yuda and Walter fail to teach gripping fingers holding an object by friction (page 2 of the Office Action, last paragraph; page 4 of the Office Action, second paragraph) but relied on Carney for teaching the same. Since, as explained above, Carney does not teach gripping fingers holding an object by friction, Carney cannot remedy the defects of Yuda and Walter.

Therefore, the rejections of the pending claims in view of Carney are improper and should be withdrawn. In particular, the following rejections should be withdrawn:

- Claims 1, 23, 25, 26, 41 and 42 over Yuda in view of Carney;
- claims 1, 2, 6, 7, 23, 41 and 42 over Walter in view of Carney;
- claims 8, 9, 43 and 44 over Yuda in view of Carney in further view of the U.S. Patent No. 4,723,503 to Yuda (Yuda-2);
- claims 3-5 and 30 over Yuda in view of Carney or over Walter in view of Carney, and further in view of U.S. Patent 3,554,594 to Thoma (Thoma); and
- claims 10, 11 and 31 over Yuda in view of Carney or over Walter in view of Carney, and further in view of the U.S. Patent 6,520,315 to Sugarman (Sugarman).

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. Application is also allowable for the reasons discussed in the applicants' previous response, which is reproduced beginning on page 14.

**Applicants' Response to the Office Action dated June 23, 2005
(reproduced from the Amendment filed on September 7, 2005)**

Claims 1, 23, 25, 26, 41 and 42 were rejected under 35 U.S.C. § 103(a) over U.S. Patent No. 4,492,400 to Yuda (the '400 patent) in view of U.S. Patent 6,652,015 to Carney et al (the '015 patent). Applicants respectfully traverse the rejection.

The Examiner appears to believe that the '400 patent teaches all elements of independent claims 1 and 23 except for gripping fingers holding an object by friction. Applicants respectfully disagree. The '400 patent additionally fails to teach or suggest another element of claims 1 and 23, a plunger that moves independently from gripping members.

The original claim 1 required "a plunger connected to and movable with said piston, and *extending between said gripping members* for engaging said vessel." Similarly, the original claim 23 required "a plunger connected to the piston, and *extending between the gripping members*." Applicants believe that the language in the bold italics above was sufficient to convey to a person skilled in the art that the plunger of the present invention moves independently from the gripping members. However, in order to expedite prosecution of the present application, applicants added an express limitation "wherein the plunger and the gripping members *move independently* from each other" to claim 1 and the limitation "capable of *moving independently* therefrom [gripping members]" to claim 23. Therefore, instant claims 1 and 23 require a plunger that moves independently from gripping members.

The '400 patent fails to teach or suggest this limitation. In the '400 patent, the gripping fingers 20 are attached to the plunger via bearing members E (col. 2, lines 2-9). This ensures that "a power stroke operating the fingers is exerted responsive to a power stroke of the piston" (col. 2, lines 8-9). Accordingly, in the

'400 patent, the plunger cannot move independently from the fingers. To the contrary, movement of the gripping fingers of the '400 patent follows and depends from movement of the plunger. Therefore, the '400 patent fails to teach or suggest two limitations of claims 1 and 23: (1) a plunger that moves independently from gripping members and (2) gripping fingers holding an object by friction.

The '015 patent fails to cure these deficiencies of the '400 patent.

First, the '015 has no teaching whatsoever of a plunger extending between the gripping members, much less of a plunger that moves independently from gripping members. Instead, the '015 patent uses a completely different construction, in which the fingers are inserted through openings in two disks. Rotation of one disk relative to the other causes fingers to open (col. 17, l. 46 –col. 18, l. 20).

Second, the '015 patent does not teach gripping fingers that passively deflect as a vessel is inserted therebetween without an application of an external power to open fingers to allow the vessel to be inserted.

The original claim 1 required “gripping members [that] have a spring-like property that allows their *deflection when said vessel is inserted therebetween*.” Similarly, the original claim 23 required a step of “picking up said vessel by *moving said gripper assembly towards said vessel such that said vessel is inserted between* said gripping members.” Applicants believe that the language in the bold italics above was sufficient to convey to a person skilled in the art that the gripping fingers of the present invention passively deflect as a vessel is inserted therebetween without an application of an external power to open fingers and to allow the vessel to be inserted. However, in order to expedite prosecution of the present application, applicants amended claim 1 to clarify the claim language as follows: “said gripping members have a spring-like property that allows their deflection as said vessel is inserted therebetween.” Similarly, applicants amended claim 23 to clarify the claim language as follows: “wherein said gripping members

deflect as said vessel is inserted therebetween.” Therefore, instant claims 1 and 23 require gripping fingers that passively deflect as a vessel is inserted therebetween.

The ‘015 patent fails to teach or suggest this limitation. As noted by the Examiner, in the ‘015 patent, “[o]nce gripper actuator motor 790 stops, it is the spring bias action of bias member 1010 on protruding 845 that provides the gripping action of fingers 730” (emphasis added). Thus, the fingers of the ‘015 patent do not open as a vessel is inserted therebetween. Instead, the ‘015 patent requires actuation of the fingers by the motor 790 in order to open them and to allow insertion of a vessel.

Furthermore, the Examiner appears to believe that “[i]t would be obvious to one of ordinary skill in the art to use spring-like gripping fingers [of the ‘015 patent], as opposed to fingers operated by mechanical means [of the ‘400 patent], in the gripper device of Yuda to make sure that the object is gripped evenly and with a constant amount of force, especially for gripping objects made of fragile materials.” Applicants respectfully disagree.

Even if the grippers of the ‘400 and the ‘015 patents had teachings of certain limitations of claims 1 and 23 as the Examiner alleges (which is clearly is not the case as explained above), it still would not have been obvious to combine the references to arrive at the instant claims 1 and 23. Such a combination is not possible without significant modifications to the grippers of the cited references.

The grippers of the ‘400 patent require a plunger moving between fingers and contacting them in order to exert pressure onto the fingers and open them. The ‘015 patent uses a completely different construction, in which the fingers are inserted through openings in two disks. Rotation of one disk relative to the other causes fingers to open (col. 17, l. 46 – col. 18, l. 20). In order to combine the spring-like fingers of the ‘015 patent with the grippers of the ‘400 patent, as suggested by the Examiner, one would have to redesign the gripper of the ‘400 patent to accommodate the rotating disks mechanism of the ‘015 patent. Such a modification

is not possible without removing the plunger of the '400 patent. But the plunger is a key element of the '400 patent, removal of which would destroy the function of the gripper. It is respectfully submitted, therefore, that it would be unobvious to combine the '400 patent and the '015 patent to arrive at the present invention.

Thus, independent claims 1 and 23 are patentable over the '400 patent in view of the '015 patent. Claims 25, 26, 41, and 42 depend from claim 23 and, therefore, are patentable over the '400 patent in view of the '015 patent for at least the same reasons as claim 23.

Claims 1, 2, 6, 7, 23, 41 and 42 were rejected under § 103(a) over the U.S. Patent 2,899,232 to Walter (the '232 patent) in view of the '015 patent. Applicants respectfully traverse the rejection.

The Examiner appears to believe that the '232 patent teaches all elements of independent claims 1 and 23 except for gripping fingers holding an object by friction. Applicants respectfully disagree. Similarly to the '400 patent, the '232 patent additionally fails to teach or suggest another element of claims 1 and 23, a plunger that moves independently from gripping members.

In the '232 patent, a clamp 39 with a camming head 42 is attached to a piston rod 24. The camming head must contact the gripping jaws 48 and exert a force onto them in order to spread them apart. Therefore, movement of piston leads to the opening or closing movement of the gripping jaws and is not independent therefrom. Therefore, similarly to the '400 patent, the '232 patent fails to teach or suggest two limitations of claims 1 and 23: (1) a plunger that moves independently from gripping members and (2) gripping fingers holding an object by friction.

As discussed in more detail above, the '015 patent fails to cure these deficiencies. First, the '015 has no teaching whatsoever of a plunger extending between the gripping members, much less of a plunger that moves independently from gripping members. Instead, the '015 patent uses a completely different construction, in which the fingers are inserted through openings in two disks.

Rotation of one disk relative to the other causes fingers to open (col. 17, l. 46 –col. 18, l. 20). Second, the ‘015 patent does not teach gripping fingers that passively deflect as a vessel is inserted therebetween without an application of an external power to open fingers to allow the vessel to be inserted. Instead, the ‘015 patent requires actuation of the fingers by the motor 790 in order to open them and to allow insertion of a vessel.

Furthermore, the Examiner appears to believe that “[i]t would be obvious to one of ordinary skill in the art to use spring-like gripping fingers [of the ‘015 patent], as opposed to fingers operated by mechanical means [of the ‘232 patent], in the gripper device of Walter to make sure that the object is gripped evenly and with a constant amount of force, especially for gripping objects made of fragile materials.” Applicants respectfully disagree.

Even if the grippers of the ‘232 and the ‘015 patents had teachings of certain limitations of claims 1 and 23 as the Examiner alleges (which is clearly is not the case as explained above), it still would not have been obvious to combine the references to arrive at the instant claims 1 and 23. Such combination is not possible without significant modifications to the grippers of the cited references.

The grippers of the ‘232 patent require a clamp with a camming head attached to a piston rod and moving between gripping jaws and contacting them in order to exert pressure onto the jaws and open them. The ‘015 patent uses a completely different construction, in which the fingers are inserted through openings in two disks. Rotation of one disk relative to the other causes fingers to open (col. 17, l. 46 –col. 18, l. 20). In order to combine the spring-like fingers of the ‘015 patent with the grippers of the ‘232 patent, as suggested by the Examiner, one would have to redesign the gripper of the ‘232 patent to accommodate the rotating disks mechanism of the ‘015 patent. Such a modification is not possible without removing the piston rod and clamp of the ‘232 patent. But the clamp is a key element of the ‘232 patent, removal of which would destroy the function of the

gripper. It is respectfully submitted, therefore, that it would be unobvious to combine the '232 patent and the '015 patent to arrive at the present invention.

Thus, independent claims 1 and 23 are patentable over the '400 patent in view of the '015 patent. Claims 2, 6, 7, 41 and 42 depend from claims 1 and 23 and, therefore, are patentable over the '400 patent in view of the '015 patent for at least the same reasons as claims 1 and 23.

Claims 8, 9, 43 and 44 were rejected under § 103(a) over the '400 patent in view of the '015 patent, as applied to claims 1, 23, 25 and 26, and in further view of the U.S. Patent No. 4,723,503 to Yuda (the '503 patent). This rejection is respectfully traversed.

Claims 8, 9, 43 and 44 depend from claim 1 and are patentable over the '400 patent in view of the '015 patent for at least the same reasons as claim 1. The '503 patent cannot remedy the defects of the '400 and the '015 patents, and is not relied upon by the Examiner for such. The Examiner cites the '503 patent for teaching means for detecting whether a vessel has been picked up. However, the '503 patent has no teachings whatsoever of (1) a plunger that moves independently from gripping members and (2) gripping members that are capable of being deflected as a vessel is inserted therebetween. Instead, similarly to the '400 patent, the '503 patent utilizes a piston (11) with a clevis bracket (13) to move gripping fingers (14) (column 2, lines 59-63). The piston is actuated by an external power source (column 3, lines 10-13; Figure 2). Thus, the fingers of the '503 patent move (open or close) in response to the movement of piston. Also, the fingers are not capable of being deflected as a vessel is inserted therebetween without an application of an external power.

Therefore, none of the cited references, either alone or in combination, would have motivated one skilled in the art to arrive at the invention as claimed. Thus, claims 8, 9, 43 and 44 are patentable over a combination of the '400, the '015, and the '503 patents.

Claims 3-5 and 30 were rejected under § 103(a) over the '400 in view of the '015 patent or over the '232 patent in view of the '015 patent, and further in view of U.S. Patent 3,554,594 to Thoma (the '594 patent). This rejection is respectfully traversed.

Claims 3-5 and 30 depend from claims 1 or 23 and are patentable over the '400 patent or the '232 patent in view of the '015 patent for at least the same reasons as claims 1 and 23. The '594 patent cannot remedy the defects of the '400, the '232, and the '015 patents, and is not relied upon by the Examiner for such. The Examiner cites the '594 patent for teaching making the grippers out of plastic material and having chamfered bottom ends of the gripper fingers.

However, the '594 patent has no teaching whatsoever of gripping members that are capable of being deflected as a vessel is inserted therebetween. Instead, the '594 patent utilizes pneumatics to flex gripping fingers for picking up a bottle (column 1, lines 34 -40). Also, the '594 patent has no teaching of a plunger that moves independently from gripping members. To the contrary, the '594 patent teaches gripping fingers being integrally secured to a base, which is connected to a piston or itself is constructed as a piston (col. 2, lines 54-67). Thus, the gripping fingers of the '594 patent move together with the piston.

Therefore, none of the cited references, either alone or in combination, would have motivated one skilled in the art to arrive at the invention as claimed. Thus, claims 3-5 and 30 are patentable over a combination of the '400, '232, '015, and the '594 patents.

Claims 10, 11 and 31 were rejected under § 103(a) over the '400 patent in view of the '015 patent or the '232 patent in view of the '015 patent, and further in view of the U.S. Patent 6,520,315 to Sugarman (the '015 patent). This rejection is respectfully traversed.

Claims 10, 11, and 31 depend from claims 1 and 23 and are patentable over the '400 patent, the '232 patent, and the '015 patent for at least the same reasons as

claims 1 and 23. The '315 patent cannot remedy the defect of the '400, '232, and '015 patents, and is not relied upon by the Examiner for such. The Examiner cites the '315 patent for teaching means for mixing the contents of vessel being gripped.

However, the '315 patent has no teaching whatsoever of gripping members that are capable of being deflected as a vessel is inserted therebetween. Instead, the '315 patent utilizes an actuator to move finger portions of the gripper (column 3, lines 40 – 46). Also, the '315 patent has no teaching of a plunger, much less of a plunger that moves independently from gripping members. Instead, the '315 patent teaches a moveable gripper coupled to the mounting base (col. 1, lines 43-45). The gripper assembly employs magnets to open and close the gripper (col. 2, lines 10-27).

Therefore, none of the cited references, either alone or in combination, would have motivated one skilled in the art to arrive at the invention as claimed. Thus, claims 10, 11, and 31 are patentable over a combination of the '400, '232, '015, and the '315 patents.

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. Reexamination and reconsideration of the application are requested.

If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at the Los Angeles, California telephone number (310) 785-4674 to discuss the steps necessary for placing the application in condition for allowance.

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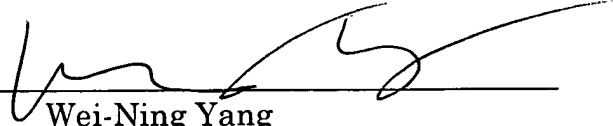
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Respectfully submitted,
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